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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,736	06/05/2000	Yezdi Dordi	4256	7891

32588 7590 08/25/2004

APPLIED MATERIALS, INC.
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SANTA CLARA, CA 95050

EXAMINER	
LEADER, WILLIAM T	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/586,736	DORDI, YEZDI	
	Examiner	Art Unit	
	William T. Leader	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-32,34, 36-39,42 and 50-53* is/are pending in the application.

4a) Of the above claim(s) *51-53* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-32,34,36-39,42 and 50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Receipt of the papers filed on June 2, 2004, is acknowledged. Applicant has elected Group I and has identified claim 30 as being generic, and claims 36-39, 42 and 50 as readable upon the species of Group I. While applicant elected with traverse, because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 51, 52 and 53 are withdrawn from consideration.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 30-32, 34, 36-39, 42 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (6,391,166) in view of Reed (4,828,654) or Bhatt et al (5,156,730).

4. The Wang patent is directed to an electrolytic plating cell. As shown in figure 1A, a conventional fountain electrolytic plating cell includes a container with a bottom wall and a perforated anode above the bottom wall. Electrolyte enters the cell through an inlet port in the center of the bottom wall and is dispersed through

the opening of the anode. The representation in figure 1A does not show details of the manner in which the anode is mounted. The bottom wall may be considered to be an anode base. A channel is defined between the bottom of the anode and the bottom wall (anode base). The arrangement is similar to that illustrated in applicant's figures 1 and 2.

5. Wang teaches the use of a plurality of concentric anodes segments wherein one of the anode segments is surrounded by another one of the anode segments in place of the single anode of the conventional cell shown figure 1A. See figures 3A and 3B, for example, which shows concentric anodes 1, 2 and 3. Electrical sources 11, 12 and 13 are connected to each of the anode segments and allow the distribution plating current to be better controlled. Cylindrical insulating walls 103, 105, 107, 109 are placed between the anode segments.

6. The apparatus of instant independent claims 30 and 36 differs from that suggested by Wang by reciting that at least one the anode segments is mounted to at least one anode support mounted on the anode base. The Reed patent is directed to apparatus for electroplating which utilizes a segmented anode array. Reed teaches that supports 36 on which the anode segments are mounted is preferably formed of plastic to achieve an electrical insulating effect between the anode segments (column 4, lines 16-20). Members 36 may be considered to be anode

supports. Members 36 are mounted to flanges on housing 12 which may be considered to be an anode base similar to the bottom wall of Wang.

7. The Bhatt et al patent is directed to apparatus for electroplating and uses a segmented anode array. Bhatt teaches that the anode segments are physically separated from each other by an electrical non-conductor (column 2, lines 61-62). Anode segments 1 are supported on an insulating rack 7 (column 3, lines 27-29). These members may be considered to be anode supports and are mounted to the base of the housing which may be considered to be an anode base.

8. The prior art of record is indicative of the level of skill of one of ordinary skill in the art. It would have been obvious at the time the invention was made to have utilized a plurality of concentric anode segments in place of the single anode shown in figure 1A of Wang because better control of the current distribution would have been obtained, and to have mounted the anode segments to an anode support mounted on an anode base because the anodes would have been securely positioned as shown by Reed and Bhatt et al. A channel between the anode base (bottom of the container) and the anode segments would have been formed as shown in figure 1A of Wang.

9. Figure 3A of Wang show that the anode segments may have substantially coplanar upper and lower surfaces as recited in instant claims 31, 32 37 and 38. Reed and Bhatt et al show that each anode support may be connected to at least one

of the anode segments as recited in instant claims 34 and 42. As noted above, Wang discloses that an electrical source is coupled to each of the anode segments as recited in instant claim 39. The insulating walls of Wang are adjustable up and down. See figures 41A and 41B and the description at column 30, line 63 to column 31, line 41. Lowering the walls would allow electrolyte between adjacent anode segments to contact both adjacent segments as recited in instant claim 50.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WL

William Leader
August 19, 2004

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700